Branched polymer

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In Chemistry, the term **Branched polymer** designs a polymer with secondary polymer chains extending from the main one. Not all polymers can be branched since in order to be one, its monomers must be chemically able to form three rather than two bindings with its 'neighbours'.

In free-radical polymerization, this occurs when a chain curls back and bonds to an earlier part of the chain. When this curl breaks, it leaves small chains sprouting from the main carbon backbone. Branched carbon chains cannot line up as close to each other as unbranched chains can. This causes less contact between atoms of different chains, and fewer opportunities for induced or permanent dipoles to occur. A low density results from the chains being further apart. Lower melting points and tensile strengths are evident, because the intermolecular bonds are weaker and require less energy to break.

See also: Polymer

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